

a plurality of pad cells to be monitored in one operating mode by a functional test, said plurality of pad cells each having a connecting pad, an upstream output driver, and a connection for an input signal;

Al Cant
a signal transmitter for producing periodic signal sequences, said signal transmitter having a connection for a periodic output signal connected to said connection for an input signal of said plurality of pad cells to be tested, in order to test a transmission response of said plurality of pad cells in said one operating mode; and

shift register cells each connected in series between said connection for an input signal of a respective one of said plurality of pad cells and said connection of said signal transmitter for an output signal.

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Claim 5 (amended). The integrated semiconductor circuit according to claim 1, including multiplexer circuits each connected between said connection for an input signal of a respective one of said pad cells and said connection of said signal transmitter for an output signal, to switch over between said one operating mode and another operating mode.
